

Rpt. 4.

# REPORT ON MACHINERY.

No. 79652

Date of writing Report 6 OCT 1919 When handed in at Local Office 6 OCT 1919 Received at London Office 6 OCT 1919 Port of LIVERPOOL

No. in Survey held at Liverpool Date, First Survey Nov 30 Last Survey 20 Sept 1919  
Reg. Book. 31756 on the steel S.S. Colon (Number of Visits 67) Tons { Gross 2437  
Net 1509

Master S. A. Simpson Built at Sarston By whom built N. & C. Seagon & Co L<sup>td</sup> When built 1919-9

Engines made at Liverpool By whom made David Rolfe & Sons when made 1919-9

Boilers made at Birkenhead By whom made Cammell Laird & Co L<sup>td</sup> when made 1919-9

Registered Horse Power \_\_\_\_\_ Owners McAndrews & Co L<sup>td</sup> Port belonging to LONDON

Nom. Horse Power as per Section 28 271 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

## ENGINES, &c.—Description of Engines Triple Expansion Inverted Cylinders No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 21"-34"-56" Length of Stroke 36" Revs. per minute 94 Dia. of Screw shaft 11 3/8" Material of steel  
as per rule 11 3/8" as fitted 12" screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tight  
in the propeller boss yes If the liner is in more than one length are the joints burned no If the liner does not fit tightly at the part  
between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive fitting all the way  
liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 4'-3 3/4"

Dia. of Tunnel shaft 10 3/8" Dia. of Crank shaft journals 10 7/8" Dia. of Crank pin 11 3/8" Size of Crank webs 7 x 1 1/2" Dia. of thrust shaft under  
collars 10 3/8" Dia. of screw 14-9" Pitch of Screw 15-0" No. of Blades 4 State whether malleable steel Total surface 70 sq ft

No. of Feed pumps 2 Diameter of ditto 3" Stroke 21" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 21" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 6 x 4 x 6 1/2 x 8 x 8" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room Three at 2 1/2" bore In Holds, &c. Three at 2 1/2" and two at 2" bore

No. of Bilge Injections one size 8" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size one at 2 1/2"

Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible yes

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Discharge Pipes above or below the deep water line above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes

What pipes are carried through the bunkers none How are they protected no

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Upper deck

## BOILERS, &c.—(Letter for record \_\_\_\_\_) Manufacturers of Steel \_\_\_\_\_

Total Heating Surface of Boilers 5112 Is Forced Draft fitted no No. and Description of Boilers 2 S B

Working Pressure 180 Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_

Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to  
each boiler \_\_\_\_\_ Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_

Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_  
long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_

Per centages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_

Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_

Length of plain part \_\_\_\_\_ Thickness of plate \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_

Pitch of stays to ditto: Sides \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Material of stays \_\_\_\_\_ Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: \_\_\_\_\_

Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How the stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_

Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_

Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_

Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_

Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and  
thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_

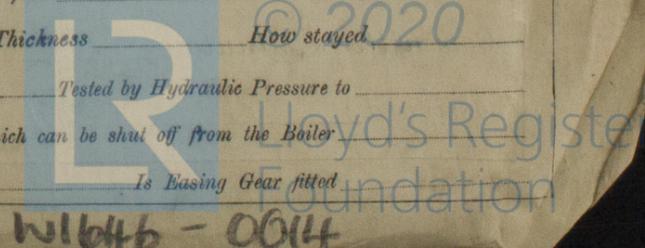
Working pressure by rules \_\_\_\_\_ Steam dome: description of joint to shell \_\_\_\_\_ % of strength of joint \_\_\_\_\_

Diameter \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet holes \_\_\_\_\_

Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Crown plates \_\_\_\_\_ Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

## SUPERHEATER. Type \_\_\_\_\_ Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_

Date of Test \_\_\_\_\_ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_  
Diameter of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_



W1646-0014

If not, state whether, and when, one will be sent?

In a Report also sent on the Hull of the Ship

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Connecting Rod top and bottom bolts 9  
2 Main Bearing bolts. 12 Coupling bolts. One set of Feed Bilges  
and Air & Circulating pump valves. One propeller. 1 set of Safety  
valve springs. Assorted bolts and nuts. Iron of various  
sizes.

The foregoing is a correct description,

DAVID ROLLO & SONS,

R. C. Reynolds

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } Dec. 30. Jan 6, 7, 14, 16, 17, 20, 29. Feb 4, 8, 18, 21, 24, 25, 27. Mar 3, 10, 12, 18, 19, 21, 26. Apr 1, 2, 7  
{ During erection on board vessel --- } 25, 29. May 6, 9, 12, 16, 21, 23, 27, 28, 30. June 23, 24, 6, 7, 13, 20, 26, 30. July 1, 2, 10, 14, 28, 29. Aug 7, 11  
Total No. of visits 13, 15, 18, 20, 27. Sept. 1, 19, 20, 25. Total: 16 1/2. Is the approved plan of main boiler forwarded herewith  *yes*

Dates of Examination of principal parts—Cylinders 30 Dec 1918 Slides 14, 16, 16 May 1919 Covers 10/3/19 22/4/19 Pistons 1/4/19 21/5/19 Rods 21/3/19  
Connecting rods 21/3/19 21/5/19 Crank shaft 21/3/19 21/5/19 Thrust shaft 1/4/19 21/5/19 Tunnel shafts 12/3/19 21/5/19 Screw shaft 1/4/19 21/5/19 Propeller 10/7/19  
Stern tube 20/6/19 21/5/19 Steam pipes tested 11 5-4-19 1919 Engine and boiler seatings 13/5/19. Engines holding down bolts 20/5/19

Completion of pumping arrangements 20/8/19. Boilers fixed 20/8/19. Engines tried under steam 20/9/19.  
Completion of fitting sea connections 25/7/19. Stern tube 25/7/19. Screw shaft and propeller 25/7/19  
Main boiler safety valves adjusted 19/9/19. Thickness of adjusting washers 5/16 3/32 5/32 3/32

Material of Crank shaft Steel Identification Mark on Do. 4236 Material of Thrust shaft Steel Identification Mark on Do. 42  
Material of Tunnel shafts steel Identification Marks on Do. 4236 Material of Screw shafts steel Identification Marks on Do. 42

Material of Steam Pipes Copper. Test pressure 360 lbs per sq inch.  
Is an installation fitted for burning oil fuel *No.* Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with   
Is this machinery duplicate of a previous case *yes*. If so, state name of vessel *S/S "Cervantes"*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has now been built under Special Survey and in accordance with the approved plans and specification. The materials and workmanship are of a good quality, and when tried under full working conditions a sea was found satisfactory in every respect, and in our opinion eligible for the notification L.M.C. 9-19. to be recorded in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9-19

Roll 9/10/19.

Certificate (if required) to be sent to

The amount of Entry Fee ... £ 2 : : : When applied for, OCT 1919  
Special (7 1/2 hrs 2.5. fee) £ 22 : 7 : : 24/10/20  
60% difference in fee as standard Donkey Boiler Fee  
Vessel & ordinary 2.5. fee. Seehon 11 : : : 24/7/19  
Travelling Expenses (if any) £ 19 : : : 3/1/19

John Dykes & A. G. Oxford  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute LIVERPOOL 7 OCT 1919

Assigned *L No 6 9: 19.*

MACHINERY DEPT WRITTEN 8.10.19



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